

**Amendments to the Abstract**

Amend the Abstract as follows:

A QP detection unit ~~is to be made by using the~~ includes digital circuit elements. There is provided a digital QP detector 200, which detects an electric power signal  $V_i$ , which is an input signal, and outputs a detection signal  $V_o$ . The digital QP detector ~~, and~~ includes a register 240 which records input digital data, a first multiplier 242 which multiplies the digital data recorded in the register 240 by a first coefficient, a second multiplier 244 which multiplies the digital data recorded in the register 240 by a second coefficient, an adder 208 which adds the electric power signal  $V_i$  and the output from the first multiplier 242 to each other, a comparator 202 which compares the level of the electric power signal  $V_i$  and the level of the detection signal  $V_o$ , and a first switch 204 which switches the digital data to be fed to the register 240 between the output from the adder 208 ( $V_i > V_o$ ) and the output from the second multiplier 244 ( $V_i < V_o$ ) based on a comparison result of the comparator. The ~~202, where the~~ output of the first switch 204 is output as the detection signal  $V_o$  via a third multiplier 246 and a latch 220.